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Docket No.: NFA-0211  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Tadao Nakaya et al.

Application No.: Not Yet Assigned

Confirmation No.: N/A

Filed: Concurrently Herewith

Art Unit: N/A

For: LUMINESCENT POLYMERS AND  
LUMINESCENT ELEMENTS

Examiner: Not Yet Assigned

**A LETTER OF CLARIFICATION OF ARTICLE 19 & 34 AMENDMENTS**

MS PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**INTRODUCTORY COMMENTS**

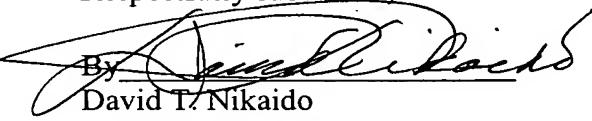
To assist the U.S. Patent and Trademark Office in interpreting the English Translation of the Article 19 and 34 Amendments, the following represents the Article 34 Amendment as it applies to the English language specification and as the English language Translation of the Article 34 Amendment applies to the Japanese language specification.

**REMARKS**

This Letter essentially restates the Articles 19 and 34 Amendments as it would apply to the English language specification. The Articles 19 and 34 Amendments have been applied to and original claims 1 and 6. Original claims 2 and 5 were cancelled. To show the changes made to the claims, copies of (1) Original Claims "A", (2) Article 19 Amendment "B" and (3) Article 34 Amendment "C" are enclosed for convenience of understanding. Accordingly, claims 1, 3, 4 and 6 are presented for examination on the merits.

Dated: April 28, 2005

Respectfully submitted,

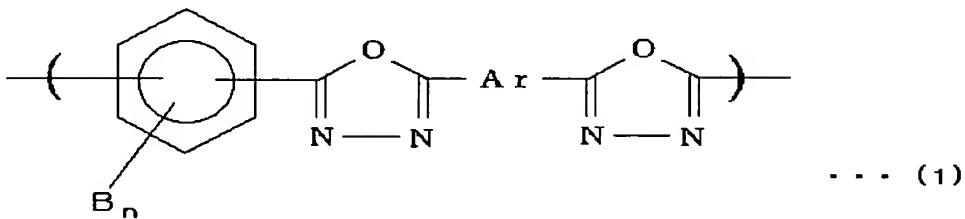
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## A

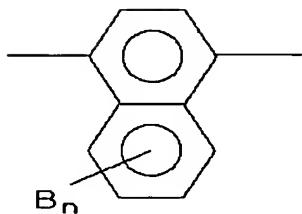
## ORIGINAL CLAIMS

1. A luminescent polymer having a repeating unit represented by formula (1):



wherein Ar is a group represented by one of formulas (2) - (5); B is -Y-Ar<sup>1</sup>, -Y-R, or a hydrogen atom, wherein Y is a single bond or -O-, Ar<sup>1</sup> is a group represented by formula (6), and R is an alkyl group or an alkenyl group; and n denotes an integer from 1 to 4, wherein Bs may be the same or different from each other when n is 2, 3, or 4; at least one of the Bs in formula (1) is -Y-Ar<sup>1</sup> or -Y-R when B or Bs in formula (2), (3), (4) or (5) are a hydrogen atom or hydrogen atoms; and at least one of the Bs in the group represented by any one of formulas (2)-(5) must be -Y-Ar<sup>1</sup> or -Y-R when B or Bs bonded to the benzene ring in formula (1) are a hydrogen atom or hydrogen atoms,

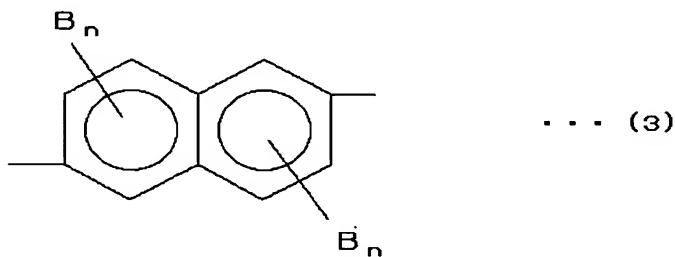
wherein the group represented by formula (2) is:



... (2)

wherein B in formula (2) is the same as that defined above; n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other;

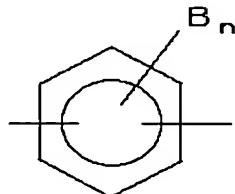
the group represented by the formula (3) is:



... (3)

herein each of the Bs in formula (3) is the same as that defined above, n denotes an integer of 1 to 3, and Bs may be the same or different from each other;

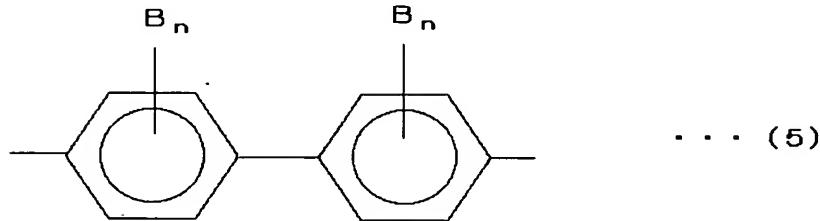
the group represented by the formula (4) is:



... (4)

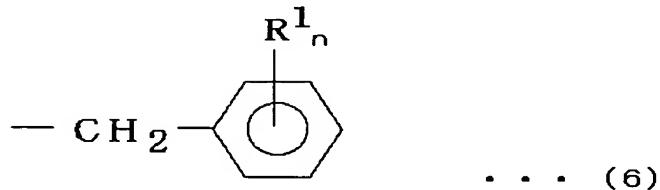
wherein B in formula (4) means the same as that defined

above, n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other; the group represented by the formula (5) is:



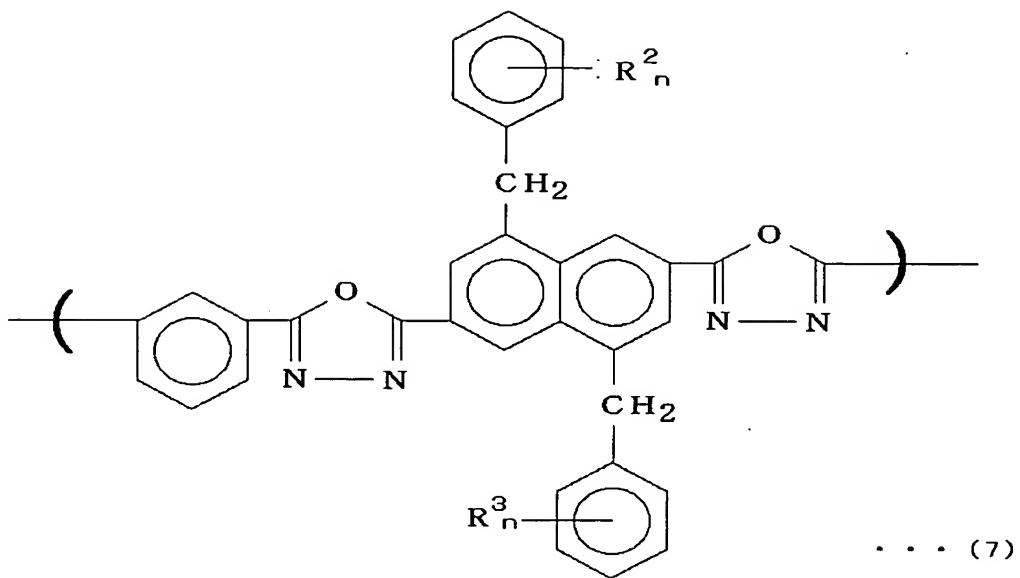
wherein each of the Bs is the same as that defined above, n denotes an integer of 1 to 4, and Bs may be the same or different from each other; and

the group represented by the formula (6) is:



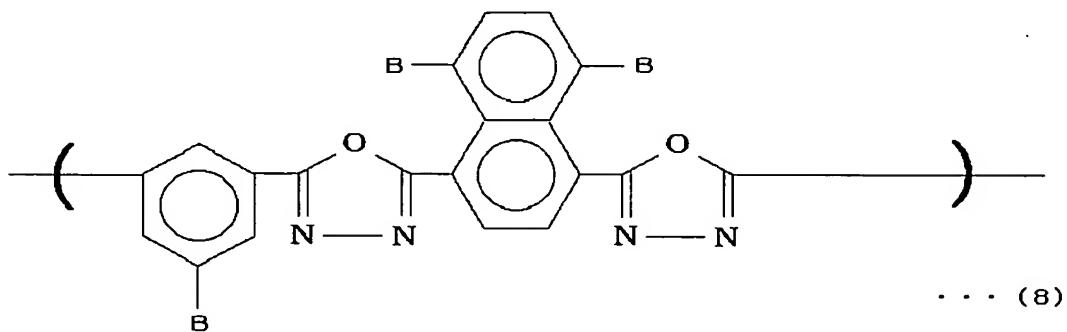
wherein R<sup>1</sup> is a hydrogen atom or an alkyl group, and n denotes an integer of 1 to 5.

2. A luminescent polymer having a repeating unit represented by formula (7):



wherein each of  $R^2$  and  $R^3$  is an alkyl group;  $n$  denotes an integer of 1-5; when  $n$  is 2, 3, 4 or 5,  $R^2$ 's may be the same or different from each other and  $R^3$ 's may be the same or different from each other; and  $R^2(s)$  and  $R^3(s)$  may be the same or different from each other.

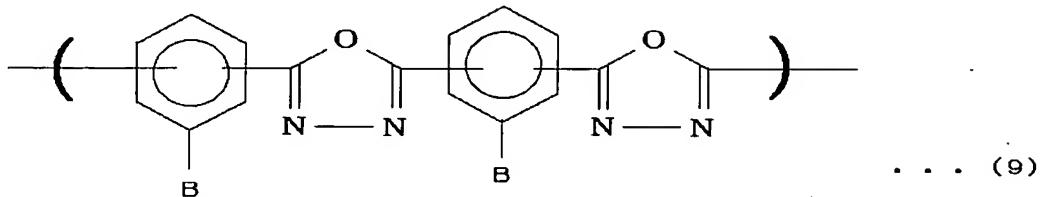
3. A luminescent polymer having a repeating unit represented by formula (8):



wherein each of the Bs in formula (8) means the same as that defined in claim 1; and at least one of the three Bs

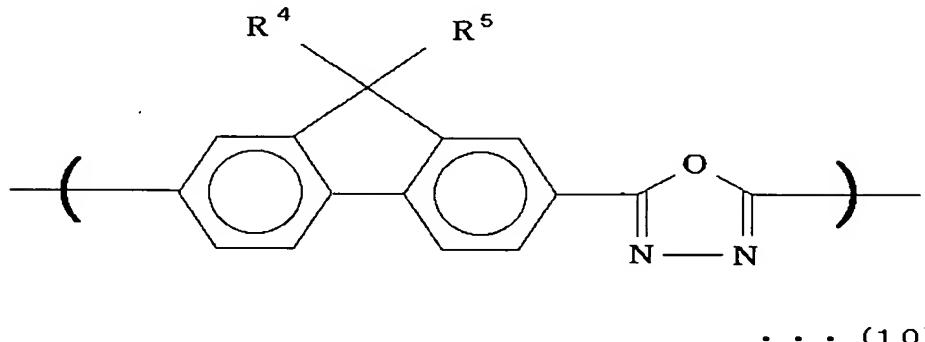
is -Y-Ar<sup>1</sup> or -Y-R, wherein Y, Ar<sup>1</sup> and R are the same as those defined in claim 1.

4. A luminescent polymer having a repeating unit represented by formula (9) :



wherein each B in formula (9) is the same as that defined in claim 1, and at least one of the two Bs is -Y-Ar<sup>1</sup> or -Y-R.

5. A luminescent polymer having a repeating unit represented by formula (10) :



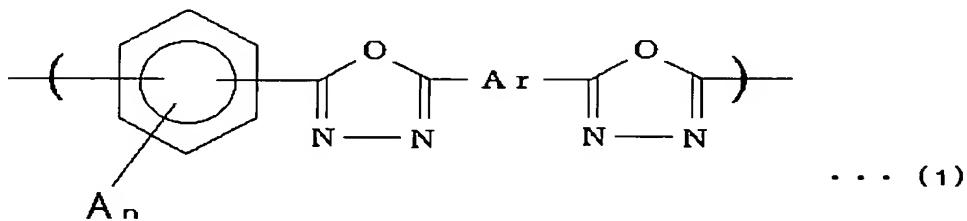
wherein each of R<sup>4</sup> and R<sup>5</sup> is an alkyl group, and R<sup>4</sup> and R<sup>5</sup> may be the same or different from each other.

6. A luminescent element comprising a pair of electrodes and a film of the luminescent polymer according to any one of claims 1-5 between the electrodes.

## B

## TRANSLATION OF AMENDMENT UNDER ARTICLE 19 PCT

1. A luminescent polymer having a repeating unit represented by formula (1):



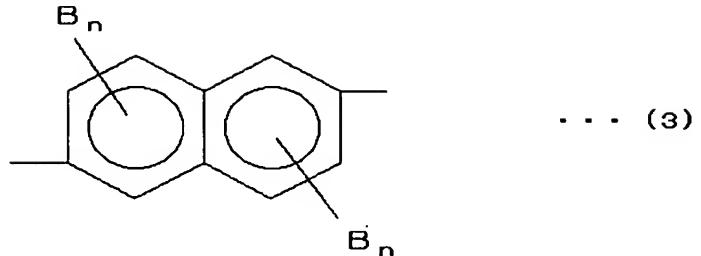
wherein Ar is a group represented by one of formulas (2) - (5); A is  $-O-Ar^1$ , or  $-O-R$ , wherein  $Ar^1$  is a group represented by formula (6), and R is an alkyl group or an alkenyl group; and n denotes an integer from 1 to 4, wherein As may be the same or different from each other when n is 2, 3, or 4;

wherein the group represented by formula (2) is:



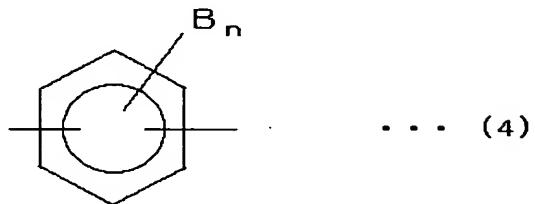
wherein B is  $-Y-Ar^1$ ,  $-Y-R$ , or a hydrogen atom, wherein Y is a single bond or  $-O-$ , and  $Ar^1$  and R are the same as those defined above; n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other;

the group represented by the formula (3) is:



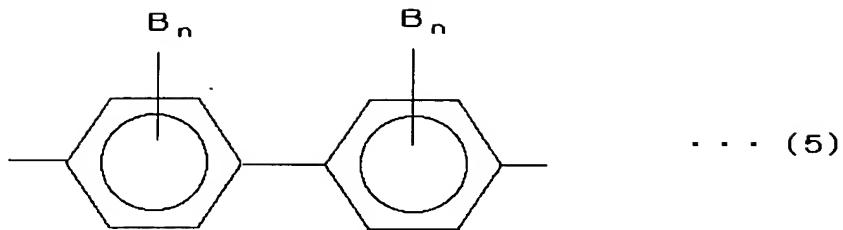
wherein each of the Bs in formula (3) is the same as that defined above, n denotes an integer of 1 to 3, and Bs may be the same or different from each other;

the group represented by the formula (4) is:



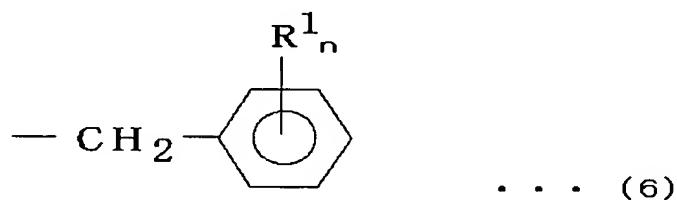
wherein B in formula (4) means the same as that defined above, n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other;

the group represented by the formula (5) is:



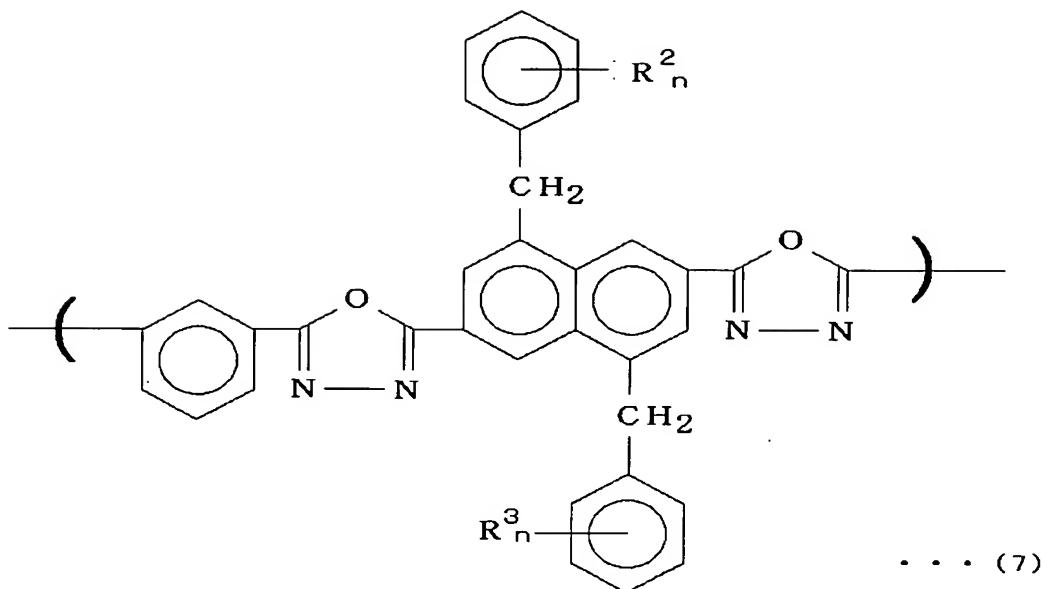
wherein each of the Bs is the same as that defined above, n denotes an integer of 1 to 4, and Bs may be the same or different from each other; and

the group represented by the formula (6) is:



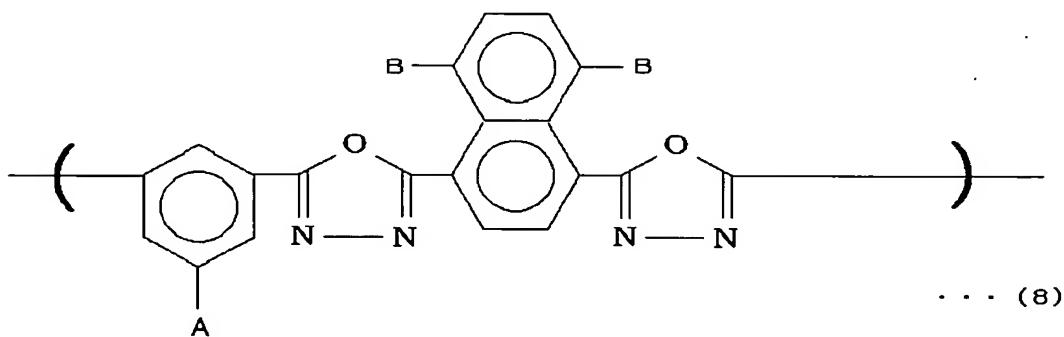
wherein R<sup>1</sup> is a hydrogen atom or an alkyl group, and n denotes an integer of 1 to 5.

2. A luminescent polymer having a repeating unit represented by formula (7):



wherein each of  $R^2$  and  $R^3$  is an alkyl group;  $n$  denotes an integer of 1-5; when  $n$  is 2, 3, 4 or 5,  $R^2$ 's may be the same or different from each other and  $R^3$ 's may be the same or different from each other; and  $R^2(s)$  and  $R^3(s)$  may be the same or different from each other.

3. A luminescent polymer having a repeating unit represented by formula (8) :

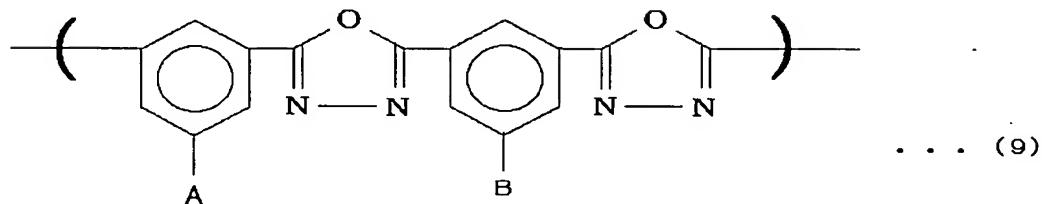



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wherein A and Bs in formula (8) respectively mean the same as

those defined in claim 1.

4. A luminescent polymer having a repeating unit represented by formula (9) :



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wherein A and Bs in formula (9) respectively mean the same as those defined in claim 1.

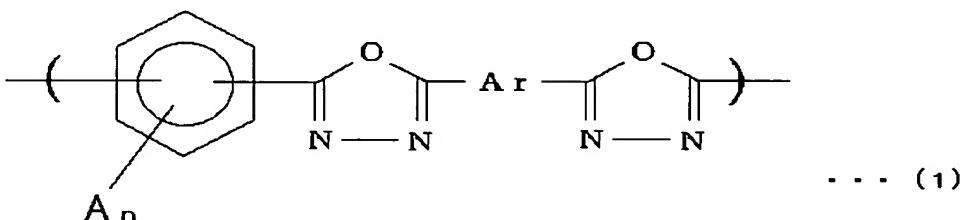
5. deleted.

6. A luminescent element comprising a pair of electrodes and a film of the luminescent polymer according to any one of claims 1-4 between the electrodes.

C

TRANSLATION OF AMENDMENT UNDER ARTICLE 34 PCT

1. A luminescent polymer having a repeating unit represented by formula (1):

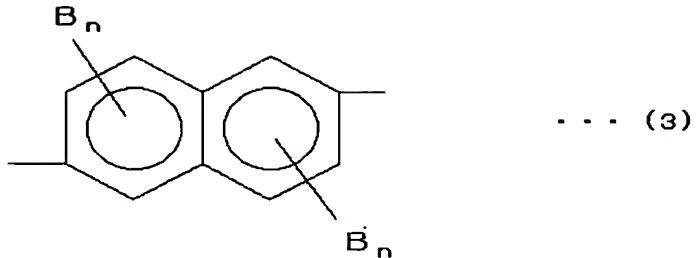


wherein Ar is a group represented by one of formulas (2) - (5);  
A is -O-Ar<sup>1</sup>, wherein Ar<sup>1</sup> is a group represented by formula (6);  
and n denotes an integer from 1 to 4, wherein As may be the  
same or different from each other when n is 2, 3, or 4;  
wherein the group represented by formula (2) is:



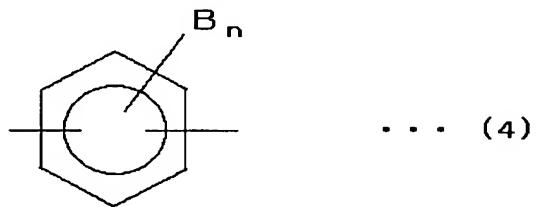
wherein B is -Y-Ar<sup>1</sup>, -Y-R, or a hydrogen atom, wherein Y is a single bond or -O-, Ar<sup>1</sup> is the same as that defined above, and R is an alkyl group or an alkenyl group; n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other;

the group represented by the formula (3) is:



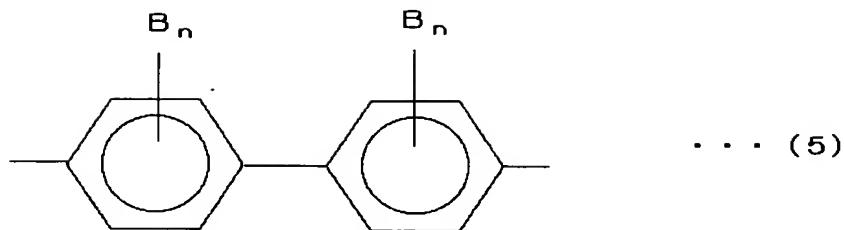
wherein each of the Bs in formula (3) is the same as that defined above, n denotes an integer of 1 to 3, and Bs may be the same or different from each other;

the group represented by the formula (4) is:



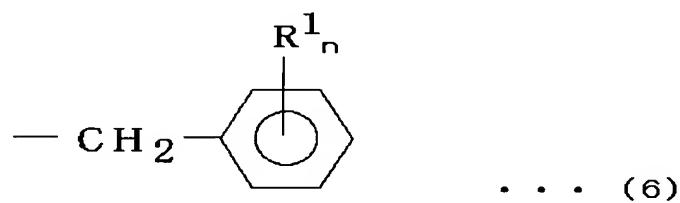
wherein B in formula (4) means the same as that defined above, n denotes an integer of 1 to 4, and when n is 2, 3, or 4, Bs may be the same or different from each other;

the group represented by the formula (5) is:



wherein each of the Bs is the same as that defined above, n denotes an integer of 1 to 4, and Bs may be the same or different from each other; and

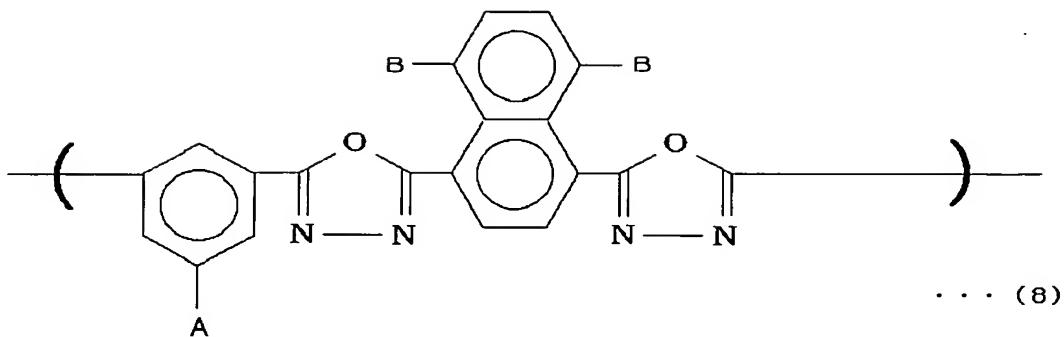
the group represented by the formula (6) is:



wherein  $R^1$  is a hydrogen atom or an alkyl group, and n denotes an integer of 1 to 5.

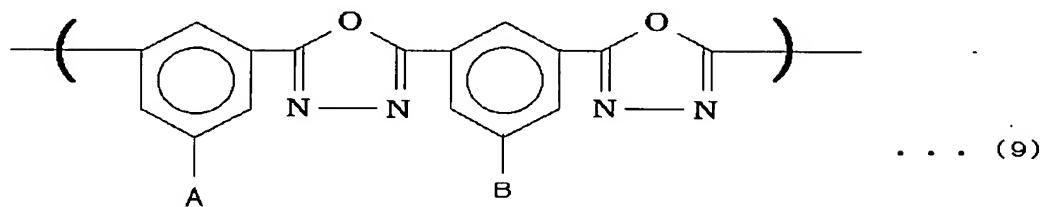
2. deleted.

3. A luminescent polymer having a repeating unit represented by formula (8):



wherein A and Bs in formula (8) respectively mean the same as those defined in claim 1.

4. A luminescent polymer having a repeating unit represented by formula (9) :



wherein A and Bs in formula (9) respectively mean the same as those defined in claim 1.

5. deleted.

6. A luminescent element comprising a pair of electrodes and a film of the luminescent polymer according to any one of claims 1, 3 and 4 between the electrodes.